

§ 86.1327-98

40 CFR Ch. I (7-1-08 Edition)

container having an inactive catalyst support.

(2) Petroleum-fueled and methanol-fueled diesel engines. Either a chassis-type or a facility-type exhaust system or both systems simultaneously may be used. If the engine is equipped with an exhaust aftertreatment device, the exhaust pipe must be the same diameter as found in-use for at least 4 pipe diameters upstream to the inlet of the beginning of the expansion section containing the aftertreatment device. The exhaust backpressure or restriction shall follow the same criteria as in § 86.1330-90(f) and may be set with a valve (muffler omitted). The catalyst container may be removed during all test sequences prior to the practice cycle, and replaced with an equivalent container having an inactive catalyst support.

(i) The engine exhaust systems shall meet the following requirements:

(A) The total length of the tubing from the exit of the engine exhaust manifold, turbocharger outlet or aftertreatment device to the primary dilution tunnel shall not exceed 32 feet (9.8 m).

(B) The initial portion of the exhaust system may consist of a typical in-use (i.e., length, diameter, material, etc.) chassis-type exhaust system.

(C) The distance from the exhaust manifold flange(s) or turbocharger outlet to any exhaust aftertreatment device shall be the same as in the vehicle configuration or within the distance specifications provided by the manufacturer.

(D) For engines which are not equipped with exhaust aftertreatment devices, all tubing in excess of 12 feet (3.7 m) from the exit of the turbocharger or exhaust manifold shall be insulated. For engines equipped with exhaust aftertreatment devices, all tubing after the aftertreatment device which is in excess of 12 feet (3.7 m) shall be insulated.

(E) If the tubing is required to be insulated, the radial thickness of the insulation must be at least 1.0 inch (25 mm). The thermal conductivity of the insulating material must have a value no greater than 0.75 BTU-in/hr/ft²/ °F (0.065 W/m-K) measured at 700 °F (371 °C).

(F) A smoke meter or other instrumentation may be inserted into the exhaust system tubing. If this option is exercised in the insulated portion of the tubing, then a minimal amount of tubing not to exceed 18 inches may be left uninsulated. However, no more than 12 feet (3.66 m) of tubing can be left uninsulated in total, including the length at the smoke meter.

(ii) The facility-type exhaust system shall meet the following requirements:

(A) It must be composed of smooth tubing made of typical in-use steel or stainless steel. This tubing shall have a maximum inside diameter of 6.0 in (15 cm).

(B) Short sections (altogether not to exceed 20 percent of the entire tube length) of flexible tubing at connection points are allowed.

[58 FR 16064, Mar. 24, 1993, as amended at 59 FR 48533, Sept. 21, 1994; 60 FR 34374, June 30, 1995; 62 FR 47130, Sept. 5, 1997]

§ 86.1327-98 Engine dynamometer test procedures; overview.

Section 86.1327-98 includes text that specifies requirements that differ from § 86.1327-96. Where a paragraph in § 86.1327-96 is identical and applicable to § 86.1327-98, this may be indicated by specifying the corresponding paragraph and the statement “[Reserved]. For guidance see § 86.1327-96”.

(a) through (d)(3) [Reserved]. For guidance see § 86.1327-96.

(d)(4) Additional accessories (e.g., oil cooler, alternators, air compressors, etc.) may be installed or their loading simulated if typical of the in-use application. This loading shall be parasitic in nature and, if used, shall be applied during all engine testing operations, including mapping. The accessory work performed shall not be included in the integrated work used in emissions calculations.

(d)(5) through (f) [Reserved]. For guidance see § 86.1327-96.

[62 FR 47130, Sept. 5, 1997]

§ 86.1330-90 Test sequence; general requirements.

(a) The test sequence shown in Figure N90-10 shows the major steps of the test procedure, as follows: